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ABSTRACT

The development and validation of the Inventory of Parent and Peer Attachment (IPPA), a self-report instrument for use with adolescents, is described. Item content of the instrument was suggested by Bowlby's theoretical formulations concerning the nature of feelings toward attachment figures. A hierarchical regression model was employed to investigate the association between quality of attachment and self-esteem, life-satisfaction and affective status. Respondents were 88 adolescents ranging in age from 17 to 20 years. As hypothesized, perceived quality of parent and peer attachments was significantly related to psychological well-being. Degree of negative life-change was independently related to well-being. An exploratory classification scheme was devised in order to categorize respondents according to the differential nature of their attachments. One secure and two anxious attachment groups were defined and compared on a number of variables theoretically expected to distinguish them. Adolescents classified as securely attached were superior in adjustment. The results also indicated that those adolescents characterized by anxious parent and peer attachment were more vulnerable to the deleterious impact of negative life-change on well-being. The study suggests the value of examining individual differences in quality of attachment during adolescence, as well as the importance of life-span approaches to the study of attachment. (Author)

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The Inventory of Parent and Peer Attachment: Individual Differences and Their Relationship to Psychological Well-being in Adolescence

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Abstract

The development and validation of the Inventory of Parent and Peer Attachment (IPPA), a self-report instrument for use with adolescents, is described. Item content of the instrument was suggested by Bowlby's theoretical formulations concerning the nature of feelings toward attachment figures. A hierarchical regression model was employed to investigate the association between quality of attachment and self-esteem, life-satisfaction and affective status. Respondents were 88 adolescents ranging in age from 17 to 20 years. As hypothesized, perceived quality of parent and peer attachments was significantly related to psychological well-being. Degree of negative life-change was independently related to well-being. An exploratory classification scheme was devised in order to categorize respondents according to the differential nature of their attachments. One secure and two anxious attachment groups were defined and compared on a number of variables theoretically expected to distinguish them. Adolescents classified as securely attached were superior in adjustment. The results also indicate that those adolescents characterized by anxious parent and peer attachment were more vulnerable to the deleterious impact of negative life-change on well-being. The study suggests the value of examining individual differences in quality of attachment during adolescence, as well as the importance of life-span approaches to the study of attachment.

Attachment may be described as an enduring affectional bond of substantial intensity (Bowlby, 1969, 1973). Behaviors which develop and maintain affectional bonds persist throughout life and are activated in order to maintain some degree of proximity to highly discriminated persons. According to Bowlby, attachment behavior functions principally to protect the individual and secondarily to facilitate learning. He has concluded that human beings at any age are most well-adjusted when they have confidence in the accessibility and responsiveness of a trusted other. This other serves as a secure base whom the individual may access, literally or ideationally, should stressful situations arise.

Most research carried out within the framework of Bowlby's theory has centered on the concept of security of attachment in early childhood. Research conducted by Ainsworth and her associates (1978) has demonstrated that individual differences in attachment behaviors in infancy arise most characteristically in stressful situations, during which they are intensely activated. During the second year of life, individual differences in infant-parent attachment can be reliably classified as "secure", "ambivalent", or "avoidant" and show substantial stability in this period (Ainsworth, Blehar, Waters & Wall, 1978; Waters, 1978). Securely attached infants reliably seek and are soothed by proximity to the caregiver when distressed. Security of attachment at one year has been shown to be related to ego-strength and peer and social competence in the pre-school years (Arend, Gove, & Sroufe, 1979; Matas, Arend, & Sroufe, 1978; Waters, Wippman, & Sroufe, 1979).

There is a growing interest in extending the study of attachment beyond childhood (Kahn & Antonucci, 1980; Lerner & Ryff, 1978). The relationship between extent and quality of and/or satisfaction with social

ties and physical and psychological well-being in adulthood has been well-documented (for review, see Gottlieb, 1981; Mueller, 1980). In addition, a number of studies have provided support for the hypotnesis that intimate ties serve to mediate the association between stress and illness (Cobb, 1976). Cobb (1976) has especially emphasized the idea that the buffering role of attachments is most effective during periods of crisis or transitions in major life-roles. Complementing the evidence that attachments may serve a protective function are the ample data suggesting that separation from or loss of attachments is a risk-factor for later physical or mental illness (Henderson, 1977). Henderson (1977) has drawn on Bowlby's model of attachment to hypothesize a causal relationship between paucity of attachments and neurosis.

Although attachment research concerning infancy and adulthood has accumulated, the nature and correlates of attachments in adolescence have received far less empirical investigation (Hill, 1980). The present research reports the development of a self-report attachment instrument for use with adolescents and examines the relationships between attachments in late adolescence and physical and psychological well-being.

There is evidence of a strong link between the quality of adolescents' intimate relationships and such outcomes as self-concept, psychological adjustment and physical health (Bachman, Kahn, Mednick, Davidson, & Johnston, 1967; Coopersmith, 1967; Gallagher, 1976; Thomas, Gecas, Weigart, & Rooney, 1974). In their study of 13 to 20 year olds, Burke and Weir (1978) found that those adolescents expressing greater satisfaction with help received from peers, and particularly from parents, experienced greater psychological well-being. Rosenberg (1965) reported a stable relationship throughout adolescence between self-esteem and perception

of warm relationships with parents. Warm and autonomous relations with parents has been found to be associated with higher stages of ego-identity (Marcia, 1980). Affectional identification and intimacy of communication with parents decreases the likelihood of delinquent behavior (Hirschi, 1969). There remains considerable controversy, however, about the relative importance of relationships with parents and peers during this period of separation-individuation and achievement of autonomy.

Following Bowlby's attachment theory, Greenberg and his colleagues (Note 1) have developed a measure of affective attachment of adolescents toward their parents and peers. Their findings that adolescents' attachments to both parents and peers were related to self-esteem and life satisfaction confirm the crucial role of attachments in psychological well-being. While Greenberg's measure provides greater operational clarity as to the nature of attachment in adolescence, because the affective dimension was unifactorial it was not possible to explore individual differences. The present study aimed to (1) develop a more reliable measure of attachment that is multifactorial, and (2) attempt to use this measure to categorize adolescents by the differential nature of their attachments in a manner isomorphic to that of Ainsworth's typology (Ainsworth et al., 1978).

In accordance with the ethological-organizational view of attachment (Bowlby, 1973; Sroufe & Waters, 1978), the following hypotheses were formulated. First, the affective quality of attachment to parents and peers would be related to measures of well-being. In order to test this, a hierarchical regression model was employed, using a linear attachment score. The second hypothesis was that adolescents with qualitatively different attachments to parents and peers would differ in proximity-

seeking and in well-being. Third, the associations between negative life-change and physical and psychological symptomatologies would be weaker for that group of adolescents classified as securely attached. In order to test the last two hypotheses, attachment groups were defined according to a set of decision rules regarding the inter-relationships among subscores obtained on the attachment measure.

Method

Sample

Subjects were 33 male and 55 female undergraduate students at the University of Washington who were enrolled in departmental courses and voluntarily participated in research for additional credit. Subjects ranged in age from 17 to 20 years, with a mean age of 18.6 years. Over 80% were Caucasian; approximately 15% were Asian or Asian-American. Seventy-three reported having lived with both parents most of their lives; of the remaining 15, all but one subject had lived with their mothers. All subjects had one or more siblings. Nearly three-quarters of the sample were living away from home at the time of data collection.

Procedure

Subjects completed all questionnaires in one session. Data were collected using the following measures.

Well Being. The Tennessee Self-concept Scale (Fitts, 1965). This scale is a collection of 100 self descriptive statements with a five-point likert scale for rating the subjective verity of each statement. A total Self-Esteem Score, calculated from 90-items, assesses overall self-esteem. Scores computed from subsets of these 90 items provide

self-concept subscales for more limited domains; in this study the Family Self and Social Self subscales were utilized. The Total Conflict score provided a measure of the extent of confusion or contradiction in self-perception. The Self-Criticism Scale, consisting of 10 items taken from the MMPI L-Scale, was used to obtain a measure of the capacity for critical self-evaluation (high scores) or alternatively, of the tendency for defensive, more socially desirable responding (low scores). The high test-retest reliabilities of the major TSCS scales (coefficients are typically in the mid-80's), the high construct validity, and the similarity of profile patterns obtained as long as a year apart support the use of the TSCS as a trait measure (Bentler, 1972).

A single, global question assessed life-satisfaction. Each subject was asked to indicate whether she/he was very dissatisfied (scored as 1), a little dissatisfied, neither satisfied nor dissatisfied, well satisfied, or completely satisfied (scored as 5) with her/his life in general. In a study of late adolescents, two-week test-retest reliability of this measure was .81 (Greenberg, Note 2).

Affective Status. Eleven scales assessing dimensions of emotional status were selected from Bachman's (1970) Affective States Index, which was constructed for use with adolescents. As part of the present study, results were factor analyzed and four scales were derived from the original 11: Depression/Anxiety (21 items; alpha = .95), Irritability/Anger (11 items; alpha = .89), Resentment/Alienation (9 items; alpha = .88) and Guilt (2 items; alpha = .83). Scale intercorrelations ranged from .47 to .80.

Physical Health Status. The health questionnaire inventoried 68 common physical symptoms or groups of two or three related symptoms

(Levine, Note 3). Problems considered to be typically psychosomatic in nature were included (e.g. trouble sleeping, trembling, sexual problems). Subjects indicated which symptoms were a problem for them either currently or in the past year.

Family Characteristics. The Family Environment Scale (FES) profiles the social climate of an individual's family (Moos, 1974). The items are grouped into 10 subscales. Six subscales, consisting of nine items each, were examined: Cohesion, Expressiveness, Conflict, Organization, Control, and Independence. The first three of these characteristics are conceptualized as relationship dimensions assessing feelings of belonging and perceptions of the extent of mutual support, openness and conflict in family members' interactions. Organization and Control scores are intended to reflect dimensions related to maintenance of the family as a system, i.e. the degree of structure and control imposed by members vis à vis each other. The Independence subscale, one dimension of personal development, measures encouragement of autonomy and of the development of individual interests. Discussion of the conceptualization of social milieus according to three sets of dimensions and presentation of preliminary data concerning the FES may be found in Moos (1974).

Stressful Life Events. The Life Events Checklist (Johnson and McCutcheon, 1980) was tailored from the Life Events Survey (Sarason, Johnson, & Siegel, 1978) for use with adolescent samples. Respondents are asked to indicate which of 47 listed events occurred in the past year and to rate each event's type of impact (positive or negative) and degree of impact (no (0), some, moderate, or great (3)). Life-Change scores are calculated by summing impact ratings separately for positive

and negative events. This provision of positive and negative scores is a methodological acknowledgment of indications that only subjectively negative events are related to psychological and physical health status in adolescents (Sarason et al., 1978). Brand and Johnson (1982) report two-week test-retest reliability of .71 for positive events and .66 for negative events.

Proximity-seeking. Two types of measures provided information about self-reported behavior in situations where a desire to seek out others (particularly significant others) would be expected. First, the Family and Peer Utilization Factors from the Inventory of Adolescent Attachments (Greenberg, Note 2) was used to assess how frequently (never, sometimes, often) subjects went to talk with family members and friends in five situations. The situations selected were when feeling lonely, depressed, angry, anxious or happy. Scale scores consisted of the sum of the frequencies with which the individual went to any one of or group of the attachment figures in the five situations. Four Utilization Scales were examined: Mother, Father, Family (parents and siblings) and Peer (male and female friends plus steady boy or girl friend). A second measure assessed the frequency of proximity-seeking in both (1) everyday, annoying situations and (2) more complicated, upsetting situations. A five-point likert scale was used for each type of situation. "I never share my concerns with others" was scored as 1 while "I always share my concerns with others" was scored as 5. Subjects were also asked to indicate their desired (rather than actual) frequency of sharing concerns in both types of situations.

Affective Quality of Attachment. The Inventory of Parent and Peer Attachment (IPPA) consists of 31 parent items and 29 peer items. The

parent and peer items are separately grouped into three scales entitled Trust, Communication, and Alienation. Subjects indicate how often each statement is true for them on a five-point likert scale with response categories consisting of Never, Seldom, Sometimes, Often, and Almost Always or Always. The two extreme responses are scored as 1 or 5, depending on whether an item is positively or negatively worded.

The IPPA was developed from an original pool of 77 items. Item content was suggested by Bowlby's theoretical formulations (1969; 1973) concerning the nature of feelings toward attachment figures. Both parent and peer classifications of items assess feelings of mutual trust, understanding and respect, the accessibility, responsivity, and predictability of parents/peers and consistency of parents'/peers' expectations. Also assessed are experiences of isolation, anxiety, anger, resentment and detachment vis à vis parents/peers. Responses obtained from the present sample were factor analyzed using the Varimax rotation. The original, 45 parent and 32 peer items were separately analyzed. For the parent measure, eight factors emerged with eigenvalues greater than 1. The first three together accounted for 66% of the total variance and were found to have readily interpretable patterns of factor loadings. The first factor, moderately bipolar (loadings ranged from -.52 to +.78), suggested themes of parental understanding and respect, and mutual trust. The second factor was also bipolar (loadings ranged from -.61 to +.79) with highest saturations for items related to the extent and quality of verbal communication with parents. Items loading highly on the third factor suggested emotional and behavioral withdrawal from parents due to dissatisfaction with their help. For the peer measure, five factors emerged with eigenvalues greater than 1. The first three accounted for

66% of the total variance and were readily interpretable. Item content of the first factor suggested communication, as in the second parent factor. The second peer factor was weakly bipolar (loadings from -.37 to +.68) with high loadings for items assessing mutual trust and respect. Factor III suggested alienation from friends but with the wish to be closer to them.

Preliminary scales were created from the six factors by selecting and summing items with loadings of .30 or greater (1% significance level). Sixty-five items satisfied this criterion on at least one factor. In a final item-selection step, items were removed if their inclusion in a scale reduced its internal consistency (Cronbach's Alpha). The three final parent scales are: Trust (14 items; alpha = .91),Communication (12 items; alpha = .89), and Alienation (5 items; alpha = .73). The final peer scales are: Communication (12 items; alpha = .88), Trust (10 items; alpha = .83), and Alienation (7 items; alpha = .73). Examination of the ranges of scores revealed that at least 65% and on the average 73% of the possible score-ranges on these scales were utilized by the sample, suggesting acceptable differentiation of subjects.

Results

Scores on all measures were examined for sex differences. Females scored significantly higher on Peer Attachment ($F(1,84) = 18.9$, $p < .0001$; Mother Utilization ($F(1,85) = 13.0$, $p < .0005$), and Parent Utilization ($F(1,80) = 4.25$, $p < .05$). In addition, females reported more negative life change ($F(1,85) = 7.7$, $p < .01$) and were less consistent than males in their concepts of themselves (TSCS Total Conflict scores; $F(1,82) = 6.9$, $p < .01$). As 94% of the sample were between 18 and 19 years of age, age differences were not examined.

Table 1 presents the Pearson correlations between the six parent and peer scales. With one exception (Parent Trust with Peer Communication) all intercorrelations were significant at the 5% significance level or less. Parent scales were more highly related to each other than they were to the peer scales. Trust and Communication scores were moderately correlated for both parent (r = .68) and peer (.65) measures. Corresponding Parent and Peer scales did not appear to be strongly related; the coefficient obtained for the Trust scales was .22, for the Communication scales, .34, and for the Alienation scales, .39.

A summary score of quality of attachment was separately defined for parents and peers as the degree of trust and communication relative to alienation. This summary score was necessary for regression analysis, due to the high intercorrelations among subscales. Parent and Peer Attachment scores for each individual were computed by summing Trust and Communication raw scores and subtracting from this sum the Alienation raw score. Parent Attachment scores ranged from 41 to 125 ($\bar{X}$ = 88.9, SD = 17.3). The score range for Peer Attachment was 32 to 102 ($\bar{X}$ = 71.1, SD = 11.9). For a separate sample of 27 18-21 year-olds (mean age = 20.1), three-week test-retest reliabilities were .93 for the Parent Attachment measure and .86 for the Peer Attachment measure.

The quality of parent and peer attachments was expected to be related to family characteristics, perceptions of oneself as family member and social being, and frequency of seeking out significant others in times of need. Therefore, data from the FES, TSCS, and family and friend Utilization Factors were used to evaluate the convergent validity of the IPPA. As can be seen in Table 2, Parent Attachment scores correlated

significantly with five of the six indices of family climate. Highest correlation coefficients were obtained for the FES Cohesion and Expressiveness scales (.56 and .53, respectively; $p < .001$). Family self-concept, as measured by the TSCS, appeared to be strongly associated with parent attachment ($r = .77$). Consistent with theoretical expectations, parent attachment moderately correlated with seeking out parents in times of need.

Peer Attachment scores correlated best with TSCS Social Self-Concept ($r = .57$, $p < .001$). Peer attachment on the whole was not related to the measures of family environment. Correlations between peer attachment and peer utilization measures were significant but weaker than those between corresponding parent measures. Furthermore, peer attachment was equally related to parent and peer Utilization Factors. Neither Parent nor Peer Attachment scores were significantly correlated with TSCS Self-Criticism Scores.

In order to test the relationship of quality of attachments to measures of psychological status, hierarchical multiple regression analyses were performed. The criterion variables examined were two well-being measures (Total Self-Esteem and Life-Satisfaction) and four indices of affective status (Depression/Anxiety, Resentment/Alienation, Irritability/Anger, and Guilt). Sex and positive and negative life-change were entered as covariates, followed by inclusion of the attachment variables. The intercorrelations of the predictor variables, excluding sex, are presented in Table 3. In consideration of the predictors' multicollinearity, Parent Attachment was entered after Peer Attachment, thus biasing against its presumed greater explanatory power.

Table 4 presents the results of the multiple regression analyses for the well-being measures. The variables accounted for 58% of the total variance in Self-Esteem scores and 54% of the variance in Life-Satisfaction scores. Positive and negative life-change and Peer and Parent Attachment all significantly predicted both self-esteem and life-satisfaction. Life-change scores accounted for 21% of the variance in Self-Esteem scores and 31% of the variance in Life-Satisfaction scores. Peer Attachment appeared to be more highly related to self-esteem than to life-satisfaction, accounting for 19% and 6% of the variances, respectively, in these measures. Parent Attachment was highly significantly related to both well-being measures, even though estimation of its contribution was biased against by its late entry into the multiple regression equation. Eighteen percent and 17% of the variances in Self-Esteem and Life-Satisfaction, respectively, were accounted for by Parent Attachment scores. The contribution of sex was non-significant for both well-being criterion measures.

The results of the multiple regression analyses for the affective-status measures are presented in Table 5. Together, the covariates accounted for between 15 and 25% of the total variance in affective status scores. Similarly to the results for the well-being criterion measures, the predictors accounted for 45% and 46% of the total variances in Depression/Anxiety and Resentment/Alienation, respectively. Positive and negative life-change and Peer and Parent Attachment all significantly predicted scores on these two affective-status measures. On the average, Peer Attachment accounted for about 10% of the total variance in scores on affective-status measures. Parent Attachment accounted for an additional 10% of the variance in both Depression/Anxiety and Resentment/Alienation

scores. However, Parent Attachment accounted for only 1% or less of the variance in the Irritability/Anger, and Guilt scores. As for the well-being measures, affective status was not predicted by sex.

Summarizing the multiple regression analyses, with the appreciable impact of life-change controlled, Parent and Peer Attachment together accounted for 37% of the variance in Self-Esteem and 23% of the variance in Life-Satisfaction scores. Parent and Peer Attachment together also contributed to between 10 and 23 percent of the explained variance in affective-status measures. The Attachment variables accounted best and approximately equally for the variances in Depression/Anxiety and Resentment/Alienation scores. Parent Attachment did not, however, predict Irritability/Anger, or Guilt. When in subsequent analyses this variable was entered prior to Peer Attachment, its contribution was marginally significant ($F = 2.7$, $p = .10$), accounting for 3% of the total variance in Irritability/Anger scores.

Using as a guide Ainsworth's (Ainsworth et al., 1978) classification of individual differences, an exploratory categorization of subjects was made according to the differential nature of their attachments. Parent attachment and peer attachment were considered separately. The raw-score distribution of each IPPA subscale (Trust, Communication, Alienation) was divided into lowest, middle and highest third. Each subject was then assigned a converted score of 1 (low), 2 (medium) or 3 (high) for each subscale. A set of logical rules defined attachment group assignment.

(1) Individuals were assigned to the Secure group if their Alienation scores were not high, and if either of their Trust or Communication

Scores was high (i.e., 3) and the other was medium (i.e., 2). If Trust and Communication were both only medium level but Alienation was low, Secure group placement was also made.

(2) Individuals were assigned to the Ambivalent group if their Trust and Communication scores were on the average medium level and if their Alienation scores were not low.

(3) Individuals were assigned to the Avoidant group if their Trust and Communication scores were both low and if their Alienation scores were medium or high level.

(4) In cases where the Trust or Communication score was medium level but the other was low, Avoidant group placement was made if the Alienation score was high; if the Alienation score was medium, however, such individuals were assigned to the Ambivalent group.

Some subjects could not be classified using this scheme and had to be excluded from the analyses of attachment-group differences. Six subjects could not be assigned to any of the parent attachment groups and 15 could not be placed in any of the peer groups. Only one subject was unclassifiable for both types of groups. Two unclassifiable patterns of converted scores were evident: (1) High Alienation but on the average higher than medium level of Trust and Communication and (2) Low Alienation but on the average lower than medium level of Trust and Communication.

The composition by sex of each of the three Parent Attachment groups and three Peer Attachment groups is shown in Table 6. Chi-Square tests indicated that the sex differences in the peer group distribution were significant ($X^2(2) = 12.85$, $p < .01$), whereas those in the parent group distribution were not ($X^2(2) = 4.49$). Thirty-eight percent of the females

and only 9% of the males were assigned to the Secure peer group, while 42% of the males and only 15% of the females were classified in the Avoidant peer group.

In order to examine the validity of assigning adolescents to differentially defined attachment groups, the parent and peer classification groups were separately compared on variables theoretically expected to distinguish them. Using separate one-way ANOVA's for parent and peer classifications, the Secure (S) group and the two "anxious" groups, Ambivalent (Am) and Avoidant (Av), were tested for differences in self-esteem, life-satisfaction, affective status, proximity-seeking, and degree of confusion or contradiction in self-concepts. A series of Scheffe's tests for post-hoc comparisons of means (.05 level) was then conducted.

Table 7 shows the significant paired-comparisons for attachment groups for the measures of well-being, affective status, and parent and peer utilization. On both measures of well-being and on three of the four affective-status scales, the S parent group was significantly different from the Av group. Life Satisfaction and Resentment/Alienation discriminated all three parent groups from each other, while Self-Esteem differentiated the S group from both anxious groups. For these comparisons, Secures were highest in well-being and lowest in negative affective status, whereas the reverse held for the Avoidants. The mean self-esteem score for the S group (362) fell at approximately the 70th percentile according to normative data provided by Fitts (1965) for individuals aged 12 to 68 years. The mean self-esteem score for the Am group was 340 (approximately the 40th percentile); for the Av group the mean score was 317

(15th percentile). All three parent attachment groups were significantly different from each other in frequency of seeking out Mother in times of need. The S group was highest and the Av group lowest on this measure. The Father Utilization Factor differentiated the S and Am groups (higher) from the Av (lower), but not from each other. Seeking-out peers did not distinguish the parent attachment groups. Although parent groups did not differ in frequency of sharing everyday concerns, reported frequency of sharing serious concern was significantly lower for the Av groups when compared with either the Am or S groups. Consistent with this result, is the finding that the Av group indicated they actually desired significantly less sharing of serious concerns than was indicated by the S group.

Among the peer classification groups, the S group was significantly higher in self-esteem and life-satisfaction and lower on the affective status measures than either of the two "anxious" groups. The "anxious" groups were not significantly different from each other. The mean self-esteem scores of the S, Am and Av peer groups were 365, 327, and 334, respectively. Contrary to expectation, seeking-out peers failed to differentiate the peer attachment groups from each other. The peer classifications groups did not differ in Mother or Father Utilization. The S peer group did report more frequent sharing of both everyday and serious concerns than the Av group. The Av peer group, similarly to the Av parent group, reported that they desired less sharing of serious concerns. The peer and parent attachment groups, contrary to expectation, did not differ in the degree of confusion or contradiction in their self-concepts as assessed by TSCS Total Conflict scores.

A comparison made between parent attachment-group placements and peer group placements revealed good correspondence. Fifty-seven percent

of subjects assigned to the S parent group were also assigned to the S peer group, while only 17% were assigned to the Av peer group. A similar pattern of correspondence was found for the Av parent group: 44 also placed into the Av peer group, while only 11% (2 subjects) were in the S peer group. Forty-eight percent of the Am parent attachment group also placed into the Am peer group, while the remaining subjects were about equally divided between the other peer groups. A Chi-Square test indicated that this distribution was significantly different from chance ($X^2(4) = 14.55$, $p < .01$).

In order to test the hypothesis that secure attachment buffers the impact of negative life-change on well-being, securely attached subjects were compared with anxiously attached subjects. Correlations were obtained between degree of negative life-change and measures of physical health and affective status for subjects jointly classified in both parent and peer S groups, and separately for subjects classified in both parent and peer Am and/or Av groups. Because parent and peer Attachment scores were known to be moderately related to the variables examined in this analysis, the common variance was removed. As shown in Table 8, for the Anxious group a pattern of moderate partial correlation coefficients (.43 - .68) was obtained. Coefficients obtained for the Secure group, however, were generally low, indicating that secure attachment moderated the effect of negative life-change on functioning. The possibility was investigated that poorer quality of attachment is associated with greater negative life-change. Subjects jointly classified in both parent and peer "anxious" attachment groups did not have significantly different life-change scores from those jointly assigned to both parent and peer S groups.

Discussion

As hypothesized, quality of parent and peer attachments was highly related to well-being, particularly to self-esteem and life satisfaction. This finding is congruent with the results of a number of studies linking psychological adjustment to the quality of intimate relationships with parents and peers. Importantly, quality of attachment not only was strongly related to well-being, but also meaningfully contributed to predicting the adolescents' depression/anxiety and resentment/alienation scores. These findings are congruent with Bowlby's hypothesis (1973) regarding the relationships between attachment, and anxiety and depression. According to a hierarchical regression model, quality of attachment to parents was significantly related to the criterion measures after quality of peer attachment and negative life-change had been controlled. Thus, it appears that even in a college-aged population the present perception of family relationships continues to be linked with well-being. This finding is congruent with that of Mortimer & Lorence (1980) who reported significant influences of family relationships on self-esteem in a college population. In addition, the findings suggest that negative life-change is independently related to well-being in adolescence.

In this study, a classification scheme was devised in order to categorize adolescents according to the differential nature of their attachments. Adolescents classified as securely attached to their parents appear to be very well adjusted. They possess higher than average self-esteem and enjoy frequent and satisfactory communication with their families. More than half of these subjects also reported a high quality to their relationships with peers. In contrast, subjects comprising the Avoidant parent-attachment group described feelings of resentment and alienation

and a more emotionally and verbally detached quality to their relationships with their parents.

The results suggest that those adolescents characterized by anxious (Ambivalent or Avoidant) attachment to both parents and peers, although experiencing no more negative life-change than those securely attached, were more vulnerable to the deleterious effects of such change on well-being. These findings are consonant with Greenberg, Siegel, and Leitch (Note 1) that for their sample of adolescents, the negative impact of high life-stress was moderated by the effects of positively perceived attachments to parents. Together, these results, contrary to Gad and Johnson's negative findings (1980), substantiate the buffering role of intimate relationships in adolescence. Such a role is predicted by Bowlby's theoretical formulations (1969), providing evidence for one mechanism by which attachment may maintain its hypothesized enduring relationship to quality of adaptation.

The method of classification of individual differences in adolescent attachment should be considered exploratory. The attachment groups formed in this study were based on relative criteria, determined by the characteristics of one sample of late adolescents (college students). The variability of trait self-esteem scores and the ranges of the IPPA scores do suggest that differentiation of subjects was adequate for limited generalizability of findings. It should be noted, however, that this initial attempt to construct a typology of attachment has some limitations. First, better differentiation of Ambivalent and Avoidant groups, if indeed that is appropriate for this age group, may be desirable. However, the finding that Ambivalents are similar to Avoidants on most measures of well-being, coupled with the finding that Ambivalents seek proximity

as frequently as Secures, appear to give convergent validity to the classification scheme. Data on attachment in infancy and Bowlby's description of anxious attachment (1973) suggest that insecure (but not avoidant) attachment is characterized by frequently activated proximity-seeking but less-than-optimal adaptation. In such cases, the attachment figure apparently serves as a not-so-secure base from which to operate. The lack of differentation of attachment groups is more apparent in the peer classifications than in the parent. The Secure peer group did report sharing both everyday and serious concerns more frequently than the Avoidant group. However, this finding may reflect the disproportionately female Secure group's greater tendency toward verbal communication than the mostly male Avoidant group, rather than true differences in quality of attachment bonds.

Second, while the classification of individual differences followed directly from Bowlby's theory, the actual computational procedure of dividing each subscale into thirds was arbitrary. As a result, there is a relatively low percentage of individuals classified as securely attached compared to corresponding infant research (Ainsworth, et al., 1978). Thus, these classifications are only comparative in nature, denoting more secure vs. more ambivalent vs. more avoidant. More clinically valid cutting points for these groups are yet to be determined.

Third, with our conceptual analysis, seven percent of the sample for parent attachment and 17 percent for peer attachment were "unclassifiable." The unclassified patterns were characterized by a tendency toward either high or low scores on the Alienation as well as the Trust and Communication subscales, suggesting a defensive response bias.

The Inventory of Parent and Peer Attachment has been shown to be a reliable and valid measure of perceived quality of close relationships in adolescence. The typology of attachments based on patterns of subscale scores represents an advance toward fuller understanding of individual differences, beyond that provided by linear scale scores. Following the development of an improved method of classification, several avenues of investigation seem particularly warranted. First, the sex difference in peer attachment group composition should be explored. Only nine percent of the males were assigned to the Secure peer group, compared with 38 percent of females. Females scored significantly higher on the peer Communication subscale. Hunter and Youniss (1982) report a similar sex difference in adolescent communication. It is possible that sex differences in Secure attachment group assignment reflects differences in verbal communication rather than degree of trust in relationships. Thus, it may be useful to develop separate norms for males and females. Second, the importance of parent vs. peer attachment throughout adolescence needs continued investigation. In contrast to Greenberg et al.'s (Note 1) findings of little association between parent and peer affectional attachment, the present results indicate substantial correspondence. There were some individuals, however, who were classified as avoidantly attached to parents, but securely attached to peers, and vice versa. These groups were too small for meaningful analysis, but deserve future attention -- particularly the group comprised of individuals who appear to be "compensating" for poor parental attachment by turning to their peers.

The third suggested avenue for future research is methodological in nature. In order to lend support to Bowlby's reasonable theoretical

notion that security of attachment is causally related to well-being, longitudinal data are called for. Such data would also help answer the troublesome question of whether the relationship between attachment and well-being may be explained by the fact that individuals with poorer adjustment perceive their relationships as less satisfactory. Precedential longitudinal research on attachment in early life and on the family-related antecedents of self-esteem in childhood (Coopersmith, 1967; Rosenberg, 1965), however, suggest the appropriateness of a developmental hypothesis of a causal association between parental influences and well-being in adolescence.

Table 1

Intercorrelations of IPPA Scales

		Parent		Peer		
		Communication	Alientation	Trust	Communication	Alienation
Parent	Trust	.68***	-.55***	.22*	.13	-.26**
	Communication		-.59***	.33***	.34***	-.25**
	Alienation			-.36***	-.33***	.39***
Peer	Trust				.65***	-.35***
	Communication					-.39***

p's are one-tailed

* $p < .05$

** $p < .01$

*** $p < .001$

Table 2

Correlations Between IPPA Scores and Scores on the TSCS, FES and Utilization Factors

	Parent Attachment	Peer Attachment
(TSCS)		
Family Self-Concept	.77***	.27**
Social Self-Concept	.46**	.57***
(FES)		
Cohesion	.56***	.11
Expressiveness	.53***	.25*
Conflict	-.34***	.04
Independence	.14	-.01
Organization	.37***	.02
Control	-.20*	-.15
Mother Utilization	.63***	.33***
Father Utilization	.60***	.27**
Family Utilization	.54***	.28**
Peer Utilization	.19	.29**

* $p < .05$

** $p < .01$

*** $p < .001$

Table 3

Intercorrelations of Predictor Variables

	Negative Life-Change	Parent Attachment	Peer Attachment
Positive Life-Change	.18	.22*	.14
Negative Life-Change		-.27**	-.05
Parent Attachment			.38***

* $p < .05$

** $p < .01$

*** $p < .001$

Table 4

Regression Statistics for Predicting Well-Being From Peer and Parent Attachment Scores (IPPA)

CRITERION	PREDICTOR	R^2(a)	F	r
Total Self-Esteem	Negative Life-Change	.12	11.85**	-.35
	Positive Life-Change	.21	8.7*	.22
	Peer Attachment	.40	26.7***	.46
	Parent Attachment	.58	34.6***	.67
Life Satisfaction	Positive Life-Change	.14	14.1***	.38
	Negative Life-Change	.31	19.5***	-.33
	Peer Attachment	.37	7.8*	.33
	Parent Attachment	.54	29.1***	.65

* $p < .01$

** $p < .001$

*** $p < .0001$

(a) Reflects cumulative R^2

Table 5

Regression Statistics for Equations Predicting Affective Status from Peer and Parent Attachment Scores (IPPA)

CRITERION	PREDICTOR	R^2(a)	F	r
Depression/Anxiety	Negative Life-Change	.18	18.6****	.43
	Positive Life-Change	.25	7.7**	-.18
	Peer Attachment	.35	12.3***	-.37
	Parent Attachment	.45	12.0***	-.54
Resentment/Alienation	Negative Life-Change	.17	16.8****	.41
	Positive Life-Change	.23	5.9*	-.16
	Peer Attachment	.36	15.1****	-.42
	Parent Attachment	.46	14.2****	-.57
Irritability/Anger	Negative Life-Change	.14	13.2****	.37
	Positive Life-Change	.19	5.3*	-.16
	Peer Attachment	.28	6.4*	-.34
	(Parent Attachment)	(.29)	(0.9)	(-.34)
Guilt	Negative Life-Change	.12	11.7***	.35
	Peer Attachment	.23	9.4**	-.28
	(Parent Attachment)	(.23)	(0.2)	(-.24)

* $p < .05$
** $p < .01$
*** $p < .001$
**** $p < .0001$

(a) Reflects cumulative R^2

Table 6

Frequency of Males and Females in Attachment Groups

	Secure	Ambivalent	Avoidant	Unclassified
		Parent[1]		
M	11 (33%)	9 (27%)	12 (36%)	1 (3%)
F	27 (49%)	14 (25%)	9 (16%)	5 (9%)
Total	38 (43%)	23 (26%)	21 (24%)	6 (7%)
		Peer[2]		
M	3 (9%)	11 (33%)	14 (42%)	5 (15%)
F	21 (38%)	16 (29%)	8 (15%)	10 (18%)
Total	24 (27%)	27 (31%)	22 (25%)	15 (17%)

[1] $\chi^2(2) = 4.49$, n.s.

[2] $\chi^2(2) = 12.85$, $p < .01$

Table 7

Significant Paired-Comparisons For Parent (X) and Peer (O) Attachment Groups by Scheffe's Test*

	Secure vs. Ambivalent	Secure vs. Avoidant	Ambivalent vs. Avoidant
Total Self-Esteem (TSCS)	XO	XO	
Life Satisfaction	XO	X	X
Depression/Anxiety	O	XO	
Resentment/Alienation	XO	XO	X
Irritability/Anger	O	XO	
Guilt			
Mother Utilization	X	X	X
Father Utilization		X	X
Peer Utilization			

*5% significance level

Table 8

Correlation Coefficients for Negative Life-Change and Measures of Ill-being (Controlling for Parent and Peer Attachment Scores)

	Secure Group (Subjects who were classified in both the Parent and Peer Secure Attachment Groups) (n = 14)	Anxious Group (Subjects who were classified in both the Parent and Peer Anxious Attachment Groups) (n = 26)
Depression/Anxiety	.22	.51**
Resentment/Alienation	-.15	.58**
Anger/Irritability	-.10	.43**
Guilt	.15	.44**
Current Physical Symptoms	-.16	.68***
Past Year's Physical Symptoms	.37	.43**

** $p < .01$

*** $p < .001$

Reference Notes

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2. Greenberg, M. Reliability and validity of the Inventory of Adolescent Attachments. Unpublished manuscript, 1982.

3. Levine, H. Unpublished instrument, 1980.

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